

Appl. No 10/051,905
After Final Amendment.
Reply to Final Office Action of April 9, 2007

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REMARKS

Claims 1 to 11 are pending in the present application. Applicants respectfully request reconsideration of the application based on the preceding amendments. Applicants respectfully submit that the amendments provided in the present paper present the rejected claims in form for consideration on appeal, as necessary and accordingly should be entered. Reconsideration of this application is respectfully requested.

Claim 1 stands rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. The Final Office Action states that the phrase "adapted to" is not a positive limitation for the claim.

Although not necessarily agreed with, in order to further prosecution of the application, Applicants have amended claims 1 and 5 to remove the phrase "adapted to." As this phrase has been cancelled, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

Claims 1 to 11 stand rejected in the present application under 35 U.S.C. § 102(e) as being unpatentable over United States Patent Number 6,249,775 ("Freeman et al."). Applicants respectfully submit that the Freeman et al. reference does not anticipate claims 1 to 11 for the following reasons.

Claim 1 recites, in part, a number of distinguishing features, different than the cited Freeman et al. reference:

1. Claim 1 recites a second pricing engine that facilitates valuation of credit instruments (e.g., such as loans), according to no-arbitrage financial principles;
2. the valuation of a credit instrument, such as a loan, comprises deriving at least one of (a) a net present value and (b) a par spread for the credit instrument ;
3. the valuation of the credit instrument (e.g., such as a loan), is achieved by deriving at least one of a net present value or par spread for the credit instrument and is performed using current market data; and

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4. simulation-based calculations are performed in which a plurality of scenarios are applied to market data to generate a plurality of valuation and exposure measures.

Claims 2 to 11 ultimately depend from claim 1 and therefore include the features of claim 1.

Applicants' system is generally directed to a system that addresses the issue of pricing and valuation of complex credit instruments, such as loans, using a systematic process. The Applicants' system facilitates the determination of a value (i.e., a price) for one or more credit instruments, such as a pool of loans, for example. As noted at paragraphs [0007] to [0009] of the present application, conventional systems, including that described in the Freeman et al. reference, function in a completely different manner, thus these conventional systems do not anticipate independent claim 1 or claims 2 to 11 that ultimately depend from claim 1.

In this regard, embodiments of the Applicants' system are distinguishable from the Freeman et al. reference for several reasons.

As recited in claim 1 of the present application, embodiments of the Applicants' system are directed to a system where credit instruments, such as loans, undergo a valuation according to no-arbitrage financial principles. As will be understood by persons skilled in the art, the calculated value of a credit instrument, such as a loan, will be consistent with the values of other traded instruments in the market (e.g., bonds, credit derivatives). The Freeman et al. reference does not disclose or suggest a system or method for valuing loans and, accordingly, is not directed to a no-arbitrage-based system.

Further, Applicants' claimed pricing engine values the credit instruments. As one of ordinary skill in the field understands, even a high-risk loan may have a substantial value, if the rate of return is high enough. In the Freeman et al. reference, however, no discussion or mention of the "value" of the pools of loans is made, rather all discussion refers to default rates.

In the Freeman et al. reference, contrary to the present application, the determination of whether a pool of loans should be bought or sold is based on potential future default rates. Thus, the method provided in the Freeman et al. reference is based on loan default risk that is determined using historical data, and not valuation, as required in the present invention. The Freeman et al. reference does not disclose or suggest, for example, that a decision to buy or sell a particular pool of loans is influenced by a change in the price offered to pay for it. As the

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Freeman et al. reference is not directed to a system for valuing loans, the system in the Freeman et al. reference is incapable of considering, for example, whether a bank may wish to purchase a pool of loans that has a high default likelihood when the price is sufficiently "cheap," or conversely, whether a bank may wish to sell a specific high performing portfolio for a sufficiently high price.

None of the foregoing features are disclosed or suggested by the Freeman et al. reference. Accordingly, and in view of the additional remarks below, it is respectfully submitted that the claims define patentable subject matter, and withdrawal of the Examiner's rejection is requested.

The Freeman et al. reference does not disclose valuation as claimed by the Applicants. As the Freeman et al. reference discusses, banks initiate loans agreements with clients from which the bank anticipates receiving interest and servicing fees. These loans are segmented using factors, such as geographic region, year vintage, and credit quality, for example. The banks try to "package" or "bundle" loans together, once the loans have been executed, and sell the loans to other banks and/or financial institutions. Banks, for example, perform this function to recuperate capital, thus making the bank more liquid. Similarly, banks may purchase bundled loans from other financial institutions if a profit may be made (see Freeman, col. 1 line 5 -- col. 2 line 42).

The Freeman et al. reference describes a methodology that is used to facilitate buy and sell decisions regarding such bundles of loans. The Freeman et al. reference, however, describes a test that is different than the claimed invention.

First, the Freeman et al. reference compares the historical performance of different vintages of loans with respect to annual default rates and suggests the use of "Crus Classes" that are considered as a diagonal slide scale in comparing performances of different vintages. (See, for example, column 6, line 14 and column 7, lines 38 to 40). The establishment of "Crus Classes" allows hypothesis testing to determine whether a certain vintage (age of loan) is "superior" from a statistical standpoint in terms of a lower default rate compared to other loans. The Freeman et al. reference postulates that performing this analysis allows banks to determine which yearly pools of loans are "better" than others, namely, which pools experienced lower defaults (see, e.g., Freeman, col. 2 lines 54-56, col. 3 lines 22-42, col. 6 line 33 to col. 7 line 30).

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As recited in amended claim 1, the present invention is markedly different than the Freeman et al. reference in that current market data is used to determine a net present value or par-spread for each credit instrument. Current market data may comprise, for example, current interest rates, spread rates, default probabilities, and transition matrices. A calibration engine is used to calibrate the input parameters to current market levels. The Freeman et al. reference does not disclose or suggest a system or method that considers current market data and, accordingly, the Freeman et al. reference does not disclose the use of a calibration engine.

The Freeman et al. reference describes an "Early Warning System" ("EWS") that is used to aid in the understanding of what might happen to default rates in the loan pools in future times, by extrapolating past default behavior into the future. (See, for example, column 13, lines 49 to 59.) More specifically, the Freeman et al. reference uses past default data in each of the Crus Classes and runs a regression on those default rates relative to other factors that he describes as "current loan characteristics." Based on the results of the regression model, the Freeman et al. reference is allegedly able to place a probability on a group of loans entering the "bad" state (i.e., default) within a pre-set time period (e.g., 1 year). Presumably, this allows banks to determine which loan pools they would like to keep and which they can do without (see, e.g., Freeman, col. 3 lines 42-50, col. 13 line 32 to col. 16 line 55).

The Freeman et al. EWS model is refined to model loan transitions in shorter time periods (e.g., 3 months). Again, based on historical data in the Crus Classes, the Freeman et al. reference is able to extract what the likelihood of loans transitioning in and out of bad states are (see, e.g., col. 16 line 56 to col. 18 line 5, and Figure 7 showing an example of such transitions).

In view of the above, it will be clearly understood by persons skilled in the art that the Freeman et al. reference teaches a methodology that is based on the **extrapolation of historical results into the future**. As noted explicitly throughout the description in the Freeman et al. reference, the methodology is based on the premise that past behavior is the key indicator to future behavior. No attempt is made to take into account current market data, to revise expectations going forward.

As further recited in claim 1, embodiments of the Applicants' system are also directed to a system where valuation of a credit instrument is performed by a pricing engine, by deriving at least one of a net present value or a par-spread for the credit instrument. The Freeman et al.

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reference is also deficient in this regard and does not disclose or suggest a system or method for valuing loans and, accordingly, the Freeman et al. reference does not disclose the use of such a pricing engine.

As recited in claim 1, an engine for performing simulation-based computations in which scenarios are applied to market data to generate valuation and exposure measures is provided. The Freeman et al. reference does not disclose or suggest a system or method that employs simulation or the shocking of input variables, and accordingly, the Freeman et al. reference does not disclose the use of a simulation engine. At best, the system in the Freeman et al. reference performs risk management using its BWS system that is based on a regression model, which extrapolates past behavior into the future.

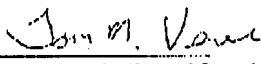
For the foregoing reasons, it is respectfully submitted that the Applicants' claims are patentable over the cited reference.

In view of the foregoing amendments and remarks, Applicants submit that this application is in condition for allowance. Early notification to that effect is respectfully requested.

The Assistant Commissioner for Patents is hereby authorized to charge any additional fees or credit any excess payment that may be associated with this communication to deposit account 04-1679.

Respectfully submitted,

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